I. *TABLES of the Barometical Altitudes at* Zurich *in* Switzerland *in the Year* 1708. *obſerved by Dr.* Joh. Ja. Scheuchzer, *F. R. S. and at* Upminſter *in* England, *obſerved at the ſame time by* **Mr.** W. Derham, *F. R. S. as alſo the Rain at* Piſa *in* Italy *in* 1707. *and* 1708. *obſerved there by Dr.* Michael Angelo Tilli, *F. R. S. and at* Zurich *in* 1708. *and at* Upminſter *in all that time: With Remarks on the ſame Tables, as alſo on the Winds, Heat and Cold, and divers other* **Matters** *occurring in thoſe three different Parts of* Europe. *By Mr.* W. Derham, *Rector of* Upminſter.

IT being the Pleaſure of our moſt illuſtrious Society, to put into my hands (according to Dr. *Scheuchzer*'s deſire) his Obſervations of the Weather, *&c.* made at *Zurich* in the Year 1708. and having alſo my ſelf receivd from Dr. *Mich. Angelo Tilli* the quantity of Rain which he obſerved to fall at *Piſa*; I have accordingly compar'd theſe Obſervations with mine made at the ſame time at *Upminſter*. And to repreſent them the better at an eaſy view, I have put what I could of them into the annexed Tables. In the former of which, I have repreſented Dr. *Scheuchzer*'s and my Barometrical Obſervations: In the later, his Rain Obſervations, thoſe of Dr. *M. A. Tilly*, and mine own; all reduced to the ſame, that is, our Engliſh meaſure, that they may the more eaſily be ſeen and compar'd together. But becauſe I am not as yet cer-

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certain of the true Proportion between the *Tuſcan* and *Engliſh* weight, I have therefore given Dr. *M. A. Tilli*'s Rain, both in the *Tuſcan* Pounds and Ounces as he ſent it me; as alſo reduced to our *Engliſh Troy*-pound and Centeſimals of that Pound, according to Mr. *Greaves*'s proportion, which is different from that aſſigned by Sir *Jonas Moor*.

As to Dr. *Scheuchzer*'s other Obſervations of the Winds, the Weather, the Thermometer, and divers other very curious and remarkable Matters, I have not inſerted them into particular Tables, becauſe theſe following general Remarks may in ſome meaſure ſupply that defect.

I. For the *Thermometer*. It would have been in vain to have compared his Obſervations with mine, by reaſon we have not yet a Standard for Thermometers, as we have for the Barometers; they being every where in all, or moſt reſpects different; ſome with large, ſome with ſmall Bottles of Spirits; ſome accordingly with longer, ſome with ſhorter; ſome with wider, ſome with narrower Canes, or Shanks; ſome filled with more highly rectify'd, and conſequently more expanſive Spirits, ſome with more phlegmatick and duller Spirits.

The difference particularly between Dr. *Scheuchzer*'s and my Thermometer is, his is about one Foot long; that I obſerved with all along (till it was broken this Year) about two Feet and a half; and that I now obſerve with, three Feet and a quarter; the bore of the Stalk is ſmall, and the Ball is large, and conſequently the Rang great, anſwering every the leaſt alteration of Heat and Cold.

But yet thus much I have been able to obſerve by comparing Dr. *Scheuchzer*'s and my Thermometrical Obſervations, *viz.* That notwithſtanding the *Alpine Snows* have mighty Effects on the Weather in *Switzerland*, and other conterminous Places, yet there is much more agreement between the Heats and Cold at *Zurich* and *Upminſter*, than

than before comparing them, I imagined. (I ſpeak with relation to laſt Year only, having no other Obſervations.) For in Winter, although I imagine we have more warm days than they; and in Summer, that they have greater Heats than we; yet I obſerve that the Colds and Heats in both Places, begin and end nearly about the ſame time: Yea, that oftentimes any remarkable Weather (eſpecially if of ſomewhat long continuance) affecteth one as well as the other place. Thus for inſtance, *June*, which was (ſome part of it at leaſt, particularly the very day after the Solſtitial-day, *June* 12.) remarkably Cold in *England*, ſeems to have been not very different at *Zurich*; Dr. *Scheuchzer*'s Thermometer divers times that Month (though not on the very ſame days perhaps) deſcending as low, or rather lower than in the Month before, yea as low as many days in the Winter Months. But one thing I farther obſerved was, that all this Month their cold Weather conſtantly preceded ours here about five or more Days. An Indication that (as ſhall be farther obſerved hereafter) the Weather in both Places was influenced by the ſame Cauſes, whether the Alpine Hills and Cold, or the Influx of the Moon and other heavenly Bodies, or any other Cauſe, I ſhall not enquire.

And as in *June* there was a great agreement in the unuſual Cold, ſo in *Auguſt* there was not much leſs agreement in Heat; the Heats in both places being great, and beginning to abate about the ſame time, only a little ſooner here than there.

In Winter alſo, although, as I ſaid, I imagine we have a greater number of warmer Days than they, yet I find that a warm Winter Month there is ſo here; and a cold one there is a cold one here likewiſe. Thus in *February* and *March*, *October* and *November*, a great agreement ſeems to have been between the Heats and Colds of both Places, ſome Days excepted. But *January* was at the beginning not ſo conſtantly Cold, for the Seaſon, at *Upminſter*, as it ſeems to have been at *Zurich*. And *December* laſt, which from the 8th Day to *Chriſtmas*-day, was here moderate and open Weather, and after that more intenſely Cold than even in the *Long-Froſt Anno* 1683. by the fewer Thermometrical Obſervations which Dr. *Scheuchzer* made then, than in other Months, the greateſt part, I ſay, of that Month ſeems to have been intenſely cold at *Zurich*, as the later part thereof was with us remarkably in *England*.

Thus much for the *Thermometrical Obſervations*. The

II. Remark I ſhall make, ſhall be of the *Winds*: Which alſo I did not enter into Tables, becauſe it may be ſufficient to obſerve in general, That although many Days they agree in both places, yet there are many more in which they differ. When they do agree, I find it is chiefly when the Winds are ſtrong, and of long continuance; And more I think when Northerly and Eaſterly, than in the other Points. Alſo I have obſerved, That a ſtrong Wind in one place hath been a weak one in the other.

III. As to the *Barometrical Obſervations*, I have thought it worth while to ſpecify them. Mine own Obſervations I ſelected which were made at Noon; and Dr. *Scheuchzer*'s as near Noon as might be. For which reaſon I commonly took his Morning Obſervations, becauſe made for the moſt part about 10 or 11 of Clock. Alſo I took thoſe made with his Bent-Barometer; becauſe they ſeemed to me (eſpecially at the beginning of the Year) to be the moſt accurate.

The Altitudes of his Mercury he meaſureth by the *Paris* foot, which I have reduced to our *Engliſh* meaſure, that they may be at an eaſy view compared with mine:

For which reaſon I have alſo all along noted their Differences.

It is manifeſt from the Tables, That throughout the whole Year, the Mercury was lower at *Zurich* than at *Upminſter*, by ſometimes one, ſometimes above two Inches *Engliſh*. The moſt remarkable difference was at the latter end of *September* and beginning of *October*, when the difference was for a good while above two Inches *Engliſh*. The reaſon of which, I gueſs, was becauſe at *Zurich* I imagine the Air was more enclined to wet, at that time, than at *Upminſter*; as alſo becauſe the Winds then were Northerly and Eaſterly with us; which, 'tis well known, do make our Barometers riſe, even in wet Weather. But the mean difference between Dr. *Scheuchzer*'s and my Barometers, I take to be about half an Inch *Engliſh*. From whence I conclude, That the Situation of *Zurich* is near a Quarter of an *Engliſh* Mile higher than that of *Upminſter* above the ſurface of the Sea; or elſe that that part of the Terraqueous Globe, lying nearer the Line, is (according to the received Opinion) higher, or farther diſtant from the Center, than ours is, lying nearer the Pole.

Farther. It may be obſerved from the annexed Barometrical Tables, That (as near the Equinoctial the Barometer is obſerved to ſtand nearly at a ſtay, but the more Northerly the Latitude, the greater the rang of the Mercury, ſo) at *Zurich* the difference (laſt Year) was not ſo great between the higheſt and loweſt ſtations of the ☿, as it was either at *Paris* or *Upminſter*. For at *Zurich* the difference was only one Inch *Paris*-meaſure; at *Paris* Dr. *Scheuchzer* ſaith it was one Inch two Lines and an half; but at *Upminſter* it was 1,8 Inch, (and ſome Years 'tis more) which is greater than either of them.

The laſt thing which I ſhall take notice of relating to our Barometrical Obſervations is, That I obſerve although there

there be ſome, and that a pretty deal of agreement between the riſing and falling of our Barometers, one being very often high or low, when the other is ſo; and one oftentimes riſing or falling when the other doth ſo; and one riſing much or little, or falling much or little when the other doth: I ſay although the matter is often thus, yet it is not ſo certainly ſo, as it is nearer home. In our Philoſ. Tranſ. N. 286. I have given a Table of ſome Heights of the Mercury obſerved at *Upminſter*, and at 200 Miles diſtance in *Lancaſhire* at the ſame time. And in the *Hiſt. de l'Acad. Roy. des Scien. Anno* 1699. Monſieur *Meraldi*, by comparing his Obſervations at the *Paris Obſervatory* with mine at *Upminſter*, takes notice, "That there is a great agreement between "the variation of the Heights of the Barometers in both "Places; that he finds almoſt always that when one ri-"ſeth or falleth, the other doth ſo too, although not "always alike: That the Days in each Month whereon "the Mercury hath been higheſt or loweſt, it hath been "the ſame at *Paris* as at *Upminſter*, but ordinarily ſome-"what more than 3 or 4 Lines lower at *Paris* than *Up-*"*minſter.*" But the Agreement between the Variations of Dr. *Scheuchzer*'s Barometers and mine, although I ſay often great, yet is not ſo conſtantly, nor ſo certainly great as nearer home, *viz.* at *London*, *Lancaſhire*, *Paris*, and other places, with which I have made the compariſon.

IV. The next Remark I ſhall make, ſhall be on the *Tables of Rain*, obſerved at *Piſa* in *Italy*, by Dr. *Mich. Angelo Tilli*, Botannick Profeſſor there; and at *Zurich* in *Switzerland*, by Dr. *J. J. Scheuchzer*; both very ingenious, curious, and diligent Members of this learned and honourable Society; and laſtly, by my ſelf at *Upminſter* in *Eſſex*. The *Italian* Obſervations were procured for me by the Society, as well as my illuſtrious Friend, Dr. *Newton*, Her Majeſties very ingenious and learned *Envoy* at *Florence*, and a very uſeful Member of this Society.

1. The firſt thing that in theſe Rain-Tables repreſents it ſelf to our view, is, That the Rains for the moſt part are more frequent at *Upminſter* than either at *Zurich* or *Piſa*; I mean We have more Rainy Days than They. But yet

2. The Rains in both theſe Places are much greater in Quantity, in the whole Year, and in ſome Months, eſpecially the Autumnal and Winter Months, than our Rains are at *Upminſter*. *May*, *June*, and *July*, and a great part of *Auguſt* in 1707. ſeem to have been very dry, and I ſuppoſe ſearching Months at *Piſa*, as in ſome meaſure ſome of them were here: And in that time leſs Rain fell there than here. But the following Autumnal Months made, at *Piſa*, ſufficient amends, either by the great quantity that fell at a time, I ſuppoſe in Thunder, and ſuch like haſty large Showers; or elſe by the Quantity and Frequency both. What a prodigious Quantity was that, for inſtance, of above 32 pounds on *Auguſt* 19? (if it all fell on that, and not ſome on the preceding days.) But we find very large Quantities at a time to have fallen on divers Days, where it is manifeſt the Rain was weighed every Day, *viz.* 10 Pound, 9 Pound, and other large Quantities for ſeveral Days together, in the cooler autumnal Months. But as the Weather groweth warmer, I imagine their Rains at *Piſa* are fewer; and what falleth, falleth in large quantities. For which reaſon the quantity of Rain in the Spring-months of *March*, *April*, and *May* 1708. (oftentimes dripping Months in *England*) is nearly the ſame both at *Piſa* and *Upminſter*.

As to the Rain at *Zurich*, I obſerve, That although their Rains are leſs frequent than ours in *Eſſex*, yet they ſeem to be more frequent than theirs at *Piſa*: but the quantity at *Zurich* is greater than at *Upminſter*, and leſs than at *Piſa*.

'Tis Dr. *Scheuchzer*'s Opinion, "That more Rain falleth "in *Switzerland* than in *France*, at *Zurich* than at *Paris*. To confirm which he giveth us this Table of eight Years Rain at *Paris*, to which I ſhall add mine for *Upminſter*.

The Rain at Paris *in* 8 *Years.*					*At* Upm
The Year.	*Depth in Lines of* Paris *meaſure.*	*Depth in Inches of* Paris *meaſure.*		*Depth in* Engliſh *Inches & Centeſ.*	*Depth in* Engliſh *Inches and Centeſimals.*
		Inc.	*Lin.*		
1699	224 ¼	18	8 ¼	19 93	15 11
1700	240 ½	20	½	21 37	19 03
1701	256 ¼	21	4 ¼	22 77	18 69
1702	196 ¼	16	4 ¼	17 45	20 38
1703	208 ¼	17	4 ¼	18 51	23 99
1704	238 ½	19	10 ½	21 20	15 80
1705	166 ¾	13	10 ¾	14 82	16 93
1706	183 ½	15	3 ½	16 31	24 29
Total Depth		142	10 ¼	152 36	154 22

It is manifeſt from this Table, That the *Zurich* Rain laſt Year (although it amounted not to the Quantity which fell at *Piſa* in a whole Year, yet) exceeded both the *Paris* and *Upminſter* annual Rains of 8 Years before. But whether it conſtantly doth ſo or not, if God ſpare them Life, the future Obſervations which Dr. *Scheuchzer* and Dr. *Tilli* promiſe us will demonſtrate.

But before I quit my Remarks on this laſt Table, 'tis neceſſary that I take notice, That there is a greater difference between theſe laſt 8 Years Rain at *Paris* and *Upminſter*, than I found in the 8 Years, in which I formerly compared the Rain of *Towneley*, *Paris*, *Liſle*, and *Upminſter* together, in Philoſ. Tranſ. N. 297. For by that compariſon it appeared, that leſs Rain fell at *Upminſter*, than at either of the other three Places. But according to theſe later 8 Years in the Table, a ſmall matter more falleth at *Upminſter* than at *Paris*. For the mean Proportion for *Paris* (which according to former Years was above 20 Inches *Paris* meaſure, or 22 Inches *Engliſh*) is according to theſe laſt 8 Years no more than 17 Inches, 9 Lines, *Paris-meaſure*, or 19 Inches *Engliſh*: And *Upminſter*-Rain, which I formerly computed at, Year for Year, about 20 Inches and an half *Engliſh*, is for theſe 8 Years much the ſame, or a little more than that at *Paris*.

The Proportions therefore which I ſhall now lay down for the yearly Rain of all Places, whoſe Rain I have had Information of, are theſe; for *Zurich* (till farther Obſervations are made) 32½ Inches; for *Piſa* (till farther Obſervations alſo) 43¼ Inches; for *Paris*, 19 Inches; for *Liſle*, 4 Inches; for *Towneley* in *Lancaſhire* 42½ Inches; for *Upminſter* 19¼ Inches; all the ſame, that is *Engliſh-meaſure*.

3. The laſt Obſervation I ſhall make upon the Rain Tables is, The great uſe of Cold to the making of Rain. That Exhalations and Vapours are the matter of Rain, is not to be doubted. And how they are raiſed, whether according to the learned and ingenious Dr. *Woodward's*, or any other Hypotheſis, I ſhall not enquire. It is ſufficient for my preſent purpoſe to ſay, That when thoſe Vapours are raiſed, they are conſtipated and condenſed into Clouds and Rain, chiefly by the Cold of the Air to which they are elevated. And the greater the quantity of Vapours raiſed is, and withal the more intenſe the Cold of thoſe airy Regions, the greater is the quantity

of Rain. This although probably a matter well known and ſcarce doubted, yet may deſerve ſpecial Conſideration, becauſe it will lead me to divers obſervables. Now this is manifeſt from the annexed Tables compared with Dr. *Scheuchzer*'s and my Weather, *&c.* Obſervations. Thus for inſtance *January*, which Dr. *Scheuchzer* frequently obſerved was ſometimes warm, ſometimes cold, and appeareth farther to have been ſo by his Thermometrical Column, and which was the ſame with us in *South-Britain*, that Month, I ſay, had plenty of Rain at *Zurich*, *Upminſter*, yea, and *Piſa* too. The ſame might be ſaid of *February* for *Zurich*, and probably *Piſa* too. So alſo for *December* in 1707. at *Piſa* and *Upminſter*; and *December* laſt at *Zurich* and *Upminſter*. But with us *February* was for the moſt part a cold Month, and the Rain the leſs, by reaſon the Vapours either could not be raiſed in plenty enough, or not be carried high enough, or ſuſpended long enough to be united,but ſoon were precipitated back again to the earth.

From theſe Cauſes aſſigned, the plenty of Exhalations and Cold of the airy Regions, I conceived it is, that at *Upminſter*, about the Equinoxes, we have often more Rain than at other Seaſons. But I cannot ſay this is certain and conſtant. Thus it was at the Autumnal Equinox in 1707, not only at *Upminſter*, but at *Piſa* too: So at *Zurich*, *Piſa* and *Upminſter* about the Vernal in 1708. and at *Zurich* and *Upminſter* the laſt Autumnal Equinox. And this very 28th of *March* 1709. whilſt I am writing this, I have a pregnant Proof of what I am ſaying. For not only the unuſual Cold of the Winter hath been ſucceeded by as unuſual quantities of Rain all this Month; but at this very time the Weather is open, but withal cool. Particularly *March* 26. many Vapours aroſe, ſo as to fill the Air with a warm ſtinking Fog. The Night following a ſmart ſhower of Hail fell, a manifeſt indication of the Cold of the middle, or top of the lower Region of the

the Air. And the day after, *viz. March* 27. proved ſo wet a day, that almoſt 5 pound of Rain fell through my Tunnel, a large quantity for the compaſs of 12 Inches Diameter in 14 or 15 hours time. The Wind and Clouds were all the while calm and ſtill, and frequeutly changing from Point to Point, near round the whole Compaſs; and the Rain that fell, fell thick, in ſmall drops. Which makes me think, that the warm foggy Vapours, raiſed in great plenty the day or two before, as ſoon as they were mounted aloft, met with ſuddain extreme Cold of the middle Region, and were thereby haſtily condenſed, and the Air being at the ſame time very light (the Barometer being then very low) they ſpeedily tumbled down in ſmall and thick Drops of Rain.

And this I take to be the very caſe of the vernal and autumnal Rains already mentioned, *viz.* In Spring, when the Earth and Waters are looſed from the brumal Conſtipations, the Vapours ariſe in great plenty. So alſo in Autumn, when the Heats that diſtipated them in Summer, and alſo warmed the ſuperiour Regions, are abated, the Vapours raiſed then in great plenty are ſoon condenſed by the Cold of the ſuperiour Regions, and ſo are forced down in more plentiful Rains than at other Seaſons, when either the Vapours are fewer, or Cold of the ſuperiour Regions leſs.

For a farther proof, or at leaſt illuſtration of what hath been ſaid, let us again caſt an Eye upon *June* laſt, a Month as unſeaſonably wet, as 'twas unuſually Cold. The Cold thereof I have already taken notice of; and the wet Weather accompanying it was ſo unſeaſonable to us in *South-Britain*, that although we had great and welcome Crops of Hay after a great ſcarcity the preceding Year, yet we had ſcarcely any good Weather to make it in. So Dr. *Scheuchzer* ſaith it was with them in *Switzerland*, in his Remarks on that Month: *Fuit hic menſis, ut ex pluviâ menſuratâ conſtat, præter modum humidus, & magno*

no quidem Vegetabilibus Hominibuſque damno. Multum computruit Fœnum; Gramina, quæ nondum fuere reſecta, ad nimium venere maturitatis gradum. Vites earumque Floſculi multa ſuſtinuerunt damna a Pluviæ continuo fere lapſu; deciderunt tenella Petala, Foliis rubigo inducta eſt, ut macra admodum ſit Autumni venturi ſpes, &c.

Having thus conſidered the uſe of *Cold* to the production of Rain, I ſhall ſhut up theſe Remarks with one thing concerning the *Alps*; and that is, I cannot but think that thoſe and all ſuch like high Mountains, and the Snows they are covered with, are of great uſe to the neighbouring, yea more diſtant Countries, in generating their Rain, and performing other great Offices of Nature. From ſome Obſervations I have made in running over, and comparing Dr. *Scheuchzer*'s and my own larger Tables, I have ſo frequently obſerved the Riſings and Fallings of the Barometer, ſome of the moſt conſiderable Variations of the Wind, the moſt remarkable Alterations of Heat and Cold, and of wet and dry; I have, I ſay, ſo often obſerved many of theſe to precede in one place what hath follow'd in another, that I am apt to think that even *England* may ſometimes partake of the effects of the *Alpine Mountains* upon the Air and Vapours. It is certain that their very cold Weather in *December* laſt, and the Relaxation thereof preceded ours: Which makes me enclined to think it might probably be derived from them to us. All the former part of that Month, eſpecially from about the 8th day till the 24th, was here mild and open. But on *Chriſtmas*-day it began to be colder, and the following days to freeze harder and harder; inſomuch that on *December* 30. my Thermometer was a great deal lower than ever I had ſeen it before. And two curious Perſons in *London* told me, that the Spirits in their Thermometers fell ſeveral degrees lower this laſt Winter, than they had done in the ſelf-ſame Thermometers during all the long and remarkable Froſt in the Year 1683. Whether

ther at *Zurich* the Cold was more exceſſive, than it uſed to be in other Years, Dr. *Scheuchzer* doth not ſay; but he noteth the *Air* to have been exceſſively Cold, and his Thermometrical Obſervations ſhew it to have been ſo ſome time before, in, and after *Chriſtmas.* And Dr. *Newton* in a Letter he honoured me with lately from *Florence*, ſaith, " The Cold was there ſo great, that for twenty " Years paſt they had not been ſenſible of greater; it " wanting on *Twelfth-day* but half a Degree of the Extre- " mity. Their *Twelfth-day* I reckon fell on *December* 26. *O. S.* and conſequently their ſo eminently Freezing-day preceded ours about four Days.

And as their Cold, ſo by Dr. *Scheuchzer*'s Obſervations, I find the Relaxation thereof preceded ours a ſhort time. For about the later end of *December* the Weather appears to have been milder, at leaſt leſs intenſely Cold with them. And ſo was ours at the beginning of *January*, about as many days after theirs, as their Cold preceded ours.

Thus I have given one eminent Inſtance of what I found leſſer Examples frequently, as I run over Dr. *Scheuchzer*'s laſt Year's Obſervations. But whether there may be any farther Reaſons for any ſuch Concluſions about the Influences of the Alpine Eminences and Colds upon far diſtant places, future Obſervations will I hope determine. But as to their Influences nearer home, Dr. *Scheuchzer* ſaith, *Alpes fœcunda mater ſunt, ut Fluminum & Nubium, ita quoque Nivis & Pluviæ. Credibile omnino eſt, loca Mari, Alpibuſque viciniora, plus etiam experiri Pluviæ præ remotioribus aliis.*

To theſe Remarks I might add Dr. *Scheuchzer*'s Obſervations of the Occurrences in each Month of what was curious as to Meteors, the State of Health and Diſeaſes, *&c.* alſo the increaſe and decreaſe of their *Zurich River*, the *Limat*, which (like other Rivers that have their Source in the *Alps*) he puts beyond all doubt (in my Opinion) to receive greater Increments from the melting of the *Alpine* Snows, than from all the wet proceeding from their Rains. But as I have been long already, theſe things would add more to the length of what I have ſaid; and therefore I ſhall rather chuſe to refer to his Obſervations at large, than injure them by an Abridgment.

Here I was putting an end to my Remarks, but in the ſame moment I received Letters from the before-commended Dr. *Newton* from *Florence*, and Dr. *M. A. Tilli* from *Piſa*. In the later of which are ſome Obſervations that ſo directly relate to what I have before taken notice of, that I muſt beg Pardon for a ſmall Addition to what I have ſaid.

Dr. *Tilli*'s half Year's Rain coming too late, I have put it alone in the additional Table. From which Table compared with the foregoing Tables it appears, that although, in the Year before, *June* and other Summer-Months were *dry*, yet laſt *June* was a *wet* Month at *Piſa*, as well as *Zurich* and *Upminſter*, and ſo likewiſe was it about the Autumnal Equinox: and for the ſame Reaſons, I imagine, which I have already mentioned.

As to the Exceſs of the *Piſa-Rain* above that of other Places (concerning which I wrote to Dr. *Tilli*) he attributeth it to the ſame cauſe (he ſaith) that I did that of *Lancaſhire*, namely, *the Height of the Hills, and the Blowing of the Winds for a long time from ſome one Quarter.* His Obſervation is this, *Libenter admitto Pluviam noſtram ſemper, vel ut plurimùm veſtram ſuperare, eà ſane ratione ut* ——— *animadvertiſti; & præcipuè ſi aſpera* Corſica *juga, autumni tempore, nive citò cooperiantur: Tunc Auſtrales venti diu vigent & Imbres. Aquilonares verò frequentiùs circa Florentinos colles, quàm circa Piſanam urbem ſpirare plané conſtat. Eſt enim hæc civitas a Boreà circumdata montibus, & pari intervallo circa milliaria quinque diſtat a mari.*

The ſame Account of the Situation of *Piſa*, and the great quantity of Rain falling there, I remember I had ſome time ſince from a very ingenious Member of this Society. Mr. *Aſton*, who hath been there; who withal added (if I miſtake not) that *Piſa* was for that reaſon called, or might be called, *The Piſs-pot of* Italy.

Beſides what is mentioned, there are in the Letters of thoſe two curious Gentlemen divers other things, ſome of them relating particularly to this laſt Winter's remarkably ſevere Froſt in *Italy*. But theſe with ſome other Accounts relating to the ſame ſubject, as they may be more ſeaſonable, ſo I intend them for the Societies Diverſion and Service (if God ſpare a little life and leiſure) in a ſhort time.

Juſt as I was putting a finiſhing Hand to this, I received from *Dublin*, Mr. *Molyneaux*'s Obſervations there of the Weather, Winds, Rain, *&c.* during the laſt Year: Which I am ſorry arrived no ſooner, that they might have accompanied, and been ſeen together with the foregoing Obſervations. But it being now too late, I ſhall take ſome other, though leſs opportune time, to acquaint this moſt illuſtrious Society with them.

A Table ſhewing at an eaſie View the Heights of the Mercury in the Barometer *in Engliſh Inches and Centeſimals of an Inch, both at* Zurich *in* Switzerland, *and at* Upminſter *in* South-Britain, *together with the Differences of thoſe Heights, throughout the Year* 1708.

	January.			February.		
D. of Mo.	Zurich *in* Engl. *Inches.*	Upm. *in* Engl. *Inches.*	*Differ. in* Engl. *Inches.*	Zurich *in* Engl. *Inches.*	Upm *in* Engl. *Inches.*	*Dif. in* Engl. *Inches.*
1	28 1	29 4	1 3	28	29 59	1 59
2				8	52	1 44
3	17	14	97	17	53	1 36
4	26	43	1 17	17	39	1 22
5	17	42	1 25	25	37	12
6	1	28	1 27	17	44	1 27
7	17	43	1 26	12	35	1 23
8	27 99	5	1 6	8	40	1 32
9	64	28 78	1 14	40	67	1 27
10	46	50	1 4	15	87	1 72
11	46	97	1 51	14	30 2	1 88
12	99	29 38	1 39	27 90	2	2 12
13	73	23	1 50	83	29 67	1 84
14	73	11	1 38	28	49	1 49
15	27 99	28 99	1	27 83	45	1 62
16				84	47	1 63
17	28 17	29 19	1 2	81	32	1 51
18	8	28 89	81	27 95	33	1 38
19	27 90	29 3	1 13	81	36	1 55
20	90	15	1 25	28	25	1 25
21	81	28 80	99	17	8	91
22	73	95	1 22	38	41	1 3
23	99	29 12	1 13	35	48	1 13
24	90	20	1 30	17	47	1 30
25						
26				20	25	1 5
27	81	57	1 66	15	22	1 7
28	81	95	2 14	27 95	28 99	1 4
29				85	94	1 9
30						
31	28 08	76	1 68			

	March.			April.		
D. of M.	Zurich in Eng. inches	Up. in Engl. Inches.	Dif. in Engl. Inches.	Zurich in Engl. Inches.	Up. in English Inches.	Dif. in English Inches.
1	27 90	29 22	1 32	28	28 97	0 97
2	28	23	1 23	27 95	94	0 99
3	27 85	42	1 57	90	29 28	1 38
4	82	64	1 83	81	53	1 72
5	28	73	1 73	90	45	1 55
6	12	44	1 32	85	65	1 80
7	6	73	1 67	90	65	1 75
8	27 81	30 12	2 31	28	50	1 50
9	81	29 46	1 65	00	60	1 60
10	85	18	1 33	27 64	62	1 98
11	75	30	1 55	75	77	2 2
12	81	50	1 69	72	62	1 90
13	85	59	1 74	90	80	1 90
14	85	45	1 60	28	91	1 91
15	28 6	37	1 31	6	89	1 83
16	13	47	1 34	8	88	1 80
17	8	52	1 44	27 95	93	1 98
18	27 90	33	1 43	95	85	1 90
19	28 6	21	1 15	28	89	1 89
20				6	88	1 82
21	27 85	34	1 49	6		
22	72	8	1 36	8	30	1 92
23	72	13	1 41	00	29 80	1 80
24	85	6	1 21			
25	81	34	1 53	8	80	1 72
26	75	29	1 54	12	85	1 73
27	85	16	1 31			
28	28 4	38	1 34	6	76	1 70
29	27 90	37	1 47			
30	95	6	1 11	00	37	1 37
31	28	14	1 14			

	May.			June.		
Da. of Mo.	Zurich *in English Inches.*	Upm. *in English Inches.*	*Dif. in English Inches.*	Zurich *in Engl. Inches.*	Upm. *in English Inches.*	*Dif. in* English *Inches.*
1	28 0	29 53	1 53	27 95	29 65	1 70
2	6	69	1 63	28 6	55	1 49
3				27 81	86	2 5
4	8	50	1 42	83	30 7	2 24
5	0	44	1 44	85	29 96	2 11
6	8	41	1 33	90	69	1 79
7	6	36	1 10	28 8	52	1 44
8				27 90	50	1 60
9	26	62	1 36	90	56	1 66
10	12	63	1 51	28 0	56	1 56
11	0	46	1 46	27 90	58	1 68
12	27 90	66	1 76	28 6	59	1 53
13	81	79	1 98	27 81	36	1 55
14	75	83	2 8	85	49	1 64
15	72	68	1 96	90	60	1 70
16	54	66	2 12	85	47	1 62
17				28 3	44	1 41
18	64	44	1 80	27 81	40	1 59
19	72	58	1 86	81	47	1 66
20	90	74	1 84	85	73	1 88
21	28 0	81	1 81			
22	0	59	1 59	90	70	1 80
23	27 95	54	1 59	97	70	1 73
24	28 8	67	1 59	85	43	1 58
25	17	80	1 63	96	45	1 49
26	15	86	1 71			
27	27 85	84	1 99	72	81	2 9
28	28 8	81	1 73	73	99	2 26
29	0	87	1 87	72	98	2 26
30	0	84	1 84	75	80	2 5
31	27 90	78	1 78			

July.

	July.			Auguſt.		
D of M	Zurich in Engl. Inches.	Upm. in Engl Inches.	Differ. in Engl. Inches.	Zurich in Eng. Inches.	Upm. in Eng. Inches.	Differ. in Eng Inches.
1	28	29 72	1 72	27 85	30 2	2 17
2	27 95	92	1 97	81	29 84	2 3
3	97	89	1 92	85	70	1 85
4	95	80	1 85	28 6	72	1 56
5	28	67	1 67	10	67	1 57
6	27 75	69	1 94	8	56	1 48
7	81	72	1 91	0	57	1 57
8	28	69	1 69	27 81	93	2 12
9	8	68	1 60	85	98	2 13
10	12	80	1 68	90	62	1 72
11	0	84	1 84	95	66	1 71
12	27 81	90	2 9	28 8	89	1 81
13	93	83	1 90	0	93	1 93
14	28 6	68	1 62	27 85	93	2 8
15				75	84	2 9
16				72	80	2 8
17	27 95	63	1 68	73	55	1 82
18	90	77	1 87	72	19	1 47
19	28	76	1 76	90	61	1 71
20	27 72	84	2 12	95	81	1 86
21	28	66	1 66	72	93	2 21
22	6	50	1 44	81	77	1 96
23	17	56	1 39	90	93	2 3
24	8	84	1 76	95	53	1 58
25	6	73	1 67	28 00	51	1 51
26				00	51	1 51
27	27 95	82	1 87	27 95	52	1 57
28	85	54	1 69	85	63	1 78
29	95	66	1 71	28	51	1 51
30	85	61	1 76	27 85	62	1 77
31	81	96	2 15	28 6	56	1 50

September.				October.		
D. of M.	[illegible] in Engl. Inches.	[illegible] in Engl. Inches.	Differ. in Engl. Inches.	[illegible] in Eng. Inches.	[illegible] in Eng. Inches.	Differ. in Eng. Inches.
1	28 6	29 58	1 52	27 72	29 92	2 20
2	00	54	1 54	69	93	2 24
3	17	50	1 33			
4	8	48	1 40			
5	27 72	61	1 89	72	73	2 1
6				85	30 5	2 20
7	72	45	1 73			
8	72	49	1 77	81	29 94	2 13
9						
10	81	45	1 64	72	86	2 14
11				64	86	2 22
12	64	67	2 3	72	30 6	2 34
13	46	48	2 2			
14	72	43	1 71	90	29 41	1 51
15	85	28 65	0 80			
16						
17	72	29 30	1 58	87	79	1 92
18	69	67	1 98	28 6	59	1 53
19				00	49	1 49
20	72	88	2 16	27 72	70	1 98
21	75	86	2 11	72	30 00	2 28
22	75	85	2 10	90	2	2 12
23	75	96	2 21	95	29 76	1 81
24	81	30 20	2 39	95	74	1 79
25	56	17	2 61	64	89	2 25
26	50	12	2 62	85	80	1 95
27	64	8[illegible]	2 25	81	67	1 8[illegible]
28	81	94	2 13	81	63	1 7[illegible]
29				28 00	64	1 64
30	72	73	2 1	27 90	80	1 90
31				28 00	[illegible]	[illegible]

E e e Novem-

	November.			December.		
Da. of Mo.	Zurich in English Inches.	Upm. in English Inches.	Dif. in English Inches.	Zurich in Engl. Inches.	Upm. in English Inches.	Dif. in English Inches.
1	28 22	30 21	1 99	28 26	29 36	1 10
2	24	18	1 94	30	45	1 15
3				22	5	0 83
4				27 99	28 96	0 97
5	15	6	1 91	73	92	1 19
6	08	12	2 4	77	29 11	1 34
7	17	29 86	1 69	85	11	1 26
8				99	15	1 16
9	22	30 8	1 86	28 15	24	1 9
10	17	10	1 93	15	24	1 9
11	22	29 78	1 56	08	28	1 20
12				27 99	40	1 41
13	22	30 10	1 88	90	59	1 69
14	17	00	1 83	73	83	2 10
15						
16	22	15	1 93			
17	26			75	74	1 99
18				90	77	1 77
19	22	29 88	1 66	95	52	1 57
20				99	60	1 61
21	22	50	1 28	28 6	61	1 55
22				6	50	1 44
23	27 77	27	1 50	27 99	77	1 78
24	90	60	1 70	28 17	28	1 11
25	28 17	84	1 67	26	36	1 10
26				17	30 14	1 97
27				22	28	2 6
28						
29				17	29 83	1 66
30	26	45	1 19	15	80	1 65
31					49	1 32

A Table of the Rain at Piſa *in* Italy, *both in* Tuſcan, *and* Engliſh *Troy-Weight, which fell through a Tunnel of half a Brace Square, from* May *till the end of* December 1707: *As alſo the quantity of Rain at* Upminſter *in* Eſſex *at the ſame time, which fell through a round Tunnel of* 12 *Inches Diameter, in Pounds Troy, and Centeſimals of a Pound.*

	May.			June.		
D. of Mo.	Piſa *Rain in Tuſcan Weight.*	Piſa *Rain reduced to Eng.W.*	*Rain at* Upminſter.	*Rain at* Piſa *in Tuſcan Weight.*	Piſa *Rain reduced to Engl. P.*	*Rain at* Upminſter.
	l. oz.	*l. dec.*	*l. dec.*	*l. oz.*	*l. dec.*	*l. dec.*
1						0 17
2						2 90
3						0 05
4						
5						
6						0 55
7						
8				5 7	5 12	
9						
10						0 06
11						0 02
12						
13						
14						
15						0 29
16						
17						
18						
19						
20						
21						
22	0 9	0 69	2 70			
23			1 26			
24			0 17			0 85
25						0 42
26						
27						0 33
28						0 23
29			0 56			
30			0 56			0 81
31	*Tot.wt*	0 69	5 25		5 12	6 68
Dep.inInch.		0 12	1 05		0 88	1 34

	July.			August.		
D. of Mo.	Piſa Rain in Tuſcan weight	Piſa Rain reduced to Eng. po.	Rain at Upminſter.	Piſa Rain in Tuſcan weight.	Piſa Rain reduced to Eng. po.	Rain at Upminſter.
	l. oz.	l. dec.	l. dec.	l. oz.	l. dec.	l. dec.
1			0 1			
2				1 1	1 0	1 90
3			0 92			
4			0 [illegible]0			0 76
5			0 25			0 09
6	2 0	1 8[illegible]				3 34
7						0 16
8						0 45
9						0 81
10						
11			0 60			
12			1 12			
13			0 3			0 10
14						0 07
15						
16			0 17			
17			0 16			1 66
18	0 3	0 23				
19				32 5	29 75	0 10
20				1 8	1 53	1 02
21						
22			0 94			
23			0 05			
24				1 4	1 22	
25						
26						
27						
28			0 92			
29			0 20			
30						0 3
31						0 9
Total		2 7	6 37	Total	[illegible] 51	[illegible]0 88
Dep. in Inch.		0 [illegible]5	1 27	Dep.	5 76	2 17[illegible]

Septem-

	September.			October.		
D. of M.	Rain at Piſa in Tuſcan Weight.	Piſa Rain reduced to Eng. wt.	Rain at Up-min-ſter.	Rain at Piſa in Tuſcan Weight.	Piſa Rain reduced to Eng. wt.	Rain at Up-min-ſter.
	l. oz.	l. dec.	l. dec.	l. oz.	l. dec.	l. dec.
1						
2						2 54
3				4 8	4 28	
4						
5						0 69
6			0 51			—
7				7 7	6 96	
8			0 02			
9			0 04			
10			1 40	1 9	1 61	
11	0 5	0 38	0 70			
12				2 3	2 06	
13	0 4	0 31	0 51			
14	2 11	2 68	0 06			
15				3 10	3 52	
16				1 8	1 53	
17						
18			0 10			
19			0 8-			
20	3 8	3 36				
21	7 9	7 11	1 65			1 62
22	10 0	9 18				
23	3 2	2 91				0 80
24	6 10	6 27	2 73			0 26
25			0 85			
26			0 46			
27			2 76			
28						
29	5 10	5 35				0 71
30			1 84			
31						
Total w.		37 55	14 50		19 96	6 62
Dep. in Inch.		6 45	2 90		3 42	1 324

Novem-

D. of Mo.	November.						December.					
	Rain at Piſa in Tuſcan Weight.		Piſa Rain reduced to Eng. W.		Rain at Upminſter.		Rain at Piſa in Tuſcan Weight.		Piſa Rain reduced to Engl. P.		Rain at Upminſter.	
	l.	oz.	l.	dec.	l.	dec.	l.	oz.	l.	dec	l.	dec.
1												
2							2	8	2	45	0	44
3					0	33					0	65
4												
5												
6											0	63
7											0	25
8							5	4	4	89		
9	9	4	8	57							0	84
10							2	10	2	60		
11												
12							2	8	2	45	1	67
13												
14					0	53						
15											1	24
16							3	10	3	52	0	96
17					0	32						
18												
19	3	9	3	44								
20							5	6	5	05	0	82
21					0	86					1	38
22											0	22
23	9	5	8	64							0	25
24	0	6	0	46	3	08						
25	2	4	2	14							0	16
26					0	28	3	2	2	91		
27	1	5	1	30			7	3	6	65	0	62
28											1	98
29							7	5	6	80		
30					0	50					0	03
31												
Total wt.			24	55	5	90			37	22	12	14
Dep. in Inch.			4	22	1	18			6	39	2	428

A Table of the Rain at Zurich *in* Switzerland, *at* Piſa, *and* Upminſter, *in the Year* 1708. *All reduc'd to the Depth in Engliſh Inches, and Centeſimals of an Inch.*

January.								February.						
D. of M.	*Rain at* Zurich	*Rain at* Piſa.		Piſa *Ra. reduc'd*		*Rain at* Upm.		*Rain at* Zurich.	*Rain at* Piſa.		Piſa *Ra. reduc'd*		*Rain at* Upm.	
	Inches.	*l.*	*oz.*	*l.*	*dec*	*l.*	*dec.*	*Inches.*	*l.*	*oz.*	*l.*	*dec*	*l.*	*dec*
1		5	8	5	20									
2	1							2 ½	3	3	2	98		
3														
4		7	2	6	58	0	97	1 ¾						
5	1					0	29	¾	0	10	0	76		
6						0	7	2					0	2
7														
8								2						
9		6	3	5	74	0	53		2	4	2	14		
10						2	48		1	8	1	53		
11						1	26							
12								2 ½	0	9	0	69		
13						1	91							
14		3	4	3	6	1	88							
15	4					0	4	½					0	18
16						0	92							
17		5	6	5	5			1 ¾						
18		2	9	2	52	1	26							
19								4 ⅓						
20	1 ½							⅙	2	1	1	90	0	54
21	1												0	51
22	4					0	91							
23	2								7	2	6	58	0	64
24	2	3	6	3	21									
25	1 ½					1	7						0	19
26						0	80							
27		4	1	3	75									
28									2	9	2	52		
29	½							½					0	22
30														
31		2	5	2	22									
Tot.	18 ½			37	33	14	39	18 ⅔			19	10	2	30
Dep	1 64			6	41	2	878	1 65			3	28	0	46

	March.								April.							
Da. of Mo.	Rain at Zurich.		Rain at Piſa.		Piſa Rai. reduced.		Rain at Upm.		Rain at Zurich.		Rain at Piſa.		Piſa Rai. reduced.		Rain at Upm.	
	Inches.		l.	oz.	l.	dec.	l.	dec.	Lines.		l.	oz.	l.	dec.	l.	dec.
1	2	$\frac{3}{4}$							9	$\frac{3}{4}$					1	16
2											2	10	1	68	0	16
3									7	$\frac{3}{4}$	2	4	2	14		
4											0	9	0	69		
5															1	54
6							1	27								
7									1							
8									3							
9															0	16
10							0	38	1	$\frac{1}{4}$					0	24
11							0	37		$\frac{3}{4}$						
12	3	$\frac{1}{2}$													0	85
13			8	1	7	40										
14							0	37		$\frac{1}{3}$						
15		3/[illegible]														
16									4	$\frac{3}{4}$						
17									5	$\frac{1}{2}$	0	10	0	76		
18			6	3	5	74			3	1						
19	2	$\frac{3}{4}$					0	25			2	2	1	99		
20							0	8	5							
21							0	20								
22							1	37								
23	2	$\frac{1}{6}$					1	06	6							
24							1	37		$\frac{1}{2}$						
25							1	43	3	$\frac{1}{4}$						
26		$\frac{1}{4}$								$\frac{1}{3}$						
27							1	29								
28							0	15								
29							0	54							0	65
30	1	$\frac{1}{2}$													0	01
31	3	$\frac{1}{2}$	2	6	2	29										
Tot.	17	$\frac{1}{6}$			15	43	10	13	52	$\frac{3}{4}$			7	26	4	77
Dep	1	51			2	65	2	3	4	69			1	25	0	96

IV. *An Account of an Experiment touching the Propagation of Sound through Water. By Mr.* Fr. Hauksbee, *F. R. S.*

AN Experiment that I made ſome time ſince, ſhewing that actual Sound could not be tranſmitted through a Vacuum, gave me an Inclination to try what would be the effect, to ſurround the Receiver that contain'd the ſounding Body, with ſo denſe a Medium as Water. Accordingly, as in the former Experiment, the Receiver which contain'd the Bell was ſcrew'd down to a Braſs-plate, with a Leather between; This Receiver with its Bell, was ſuſpended in a large Glaſs-Veſſel, by Four Twine-threads to the top, and as many to the bottom: whereby it remain'd in the middle between both. Concluding likewiſe, that theſe Threads would ſo abſorbe the Water when it ſhould come to be put in, that there could be no Apprehenſion, that any Sound ſhou'd be convey'd by them from the ſounding Body, any more than if they were intirely Water. Thus provided, the Clapper was made to ſtrike the Bell, whoſe Sound was ſomething leſs by the Interpoſition of the Glaſs, than it would be, had it been made in the open Air; however it was very audible, and might be heard at a conſiderable diſtance: It appear'd to the Ear to be very harſh, in reſpect to the Tone it afforded us. But now, when the Water came to be pour'd in, and the inward Receiver ſurrounded by it, at leaſt an Inch and an half from the neareſt part of the outward Glaſs, the Clapper again was made to give the Sound; which it did, ſeemingly, very little leſs,

	July.			August.			September.		
Da. of Mo.	Rain at Zurich.	Rain at Upm.		Rain at Zurich.	Rain at Upm.		Rain at Zurich.	Rain at Upmin.	
	Lines.	*l.*	*dec.*	*Lines.*	*l.*	*dec.*	*Lines.*	*l.*	*dec.*
1	1	0	06						
2									
3	2 ½							0	74
4		0	03					0	06
5									
6	25 ½							0	64
7					3	38	2		
8		0	93				7 ¾	0	40
9		0	49				4 ¼		
10		0	59					0	05
11		0	47		0	07		0	01
12		0	01					1	41
13		0	11						
14							5 ¾	1	24
15		1	00				2 ¾	1	10
16		0	16						
17					1	05			
18	3			3 ¾	0	56	7 ¾	0	29
19									
20	2 ⅔								
21		0	01						
22									
23				27 ¾				0	27
24		0	01		0	15			
25		0	41	1 ¼	0	76			
26	¾								
27					0	31	3 ¾		
28	⅔	1	20						
29				2 ½	1	32		0	99
30	⅙	0	04	¼				0	08
31	3				7	10			
Tot.	39 ⅘	5	52	35 ½	14	70	34	7	28
Dep	3 50	1	11	3 15	2	94	3 02	1	46

October.

D. of M.	October. Rain at Zurich. Lines.	October. Rain at Upm. l. dec.	Novemb. Rain at Zurich. Lines.	Novemb. Rain at Upm. l. dec.	December. Rain at Zurich. Lines.	December. Rain at Upmin. l. dec.
1						0 10
2		0 03				
3						0 61
4				0 92		0 08
5		0 08			17 ½	0 27
6						
7						
8						0 30
9						0 66
10						
11	4 ½			2 22		
12		0 06	¾	0 26		
13		0 37			8	
14		0 16				
15						
16						
17						0 54
18		0 31				
19						1 84
20						
21	13 ½					1 22
22			6 ¾			
23		0 02				4 00
24						0 22
25						
26	6 ¾					
27						
28		0 06				
29						
30				0 90	½	
31	2 ¾	0 05			3 ½	
To	27 ½	2 14	7	4 30	29 ½	9 84
D.	2 44	0 223	0 62	0 86	2 62	1 97

A Proſpect of all the Rain in the foregoing Tables, in every Month, Half Year, and the whole Year, from June 1. *N. S. or* May 21. *O. S.* 1707. *to the end of the Year* 1708.

	Depth of the Piſa *Rain.* *Engliſh Inches.*	*Depth of the* Upm. *Rain.* *Engliſh Inches.**	*Depth of the* Zurich *Rain.* *Engliſh Inches.*
May.	0 12	1 05	
June.	0 88	1 34	
July.	0 36	1 27	
Auguſt.	5 76	2 18	
September.	6 45	2 90	
October.	3 43	1 33	
November.	4 22	1 18	
The Half Year's Rain.	21 22	11 25	
December.	6 39	2 43	
Anno 1708.			
January.	6 41	2 88	1 64
February.	3 28	0 46	1 65
March.	2 65	2 03	1 51
April.	1 25	0 96	4 69
May.	3 33	2 02	1 91
The Half Year's Rain.	23 31	10 78	
Depth of the whole Year's Rain.	44 53	22 03	
June.	4 90	2 32	5 91
The Half Year's Rain.		10 67	17 31
July.		1 11	3 50
Auguſt.	2 27	2 94	3 15
September.	7 21	1 46	3 02
October.	5 33	0 23	2 44
November.	0 13	0 86	0 62
December.		1 97	2 62
The Half Year's Rain.	19 84	8 57	15 35
The whole Year's Rain.		19 24	32 66

A Table of the Rain at Piſa *in ſome of the latter Six Months of the Year* 1708. *in* Tuſcan *Pounds and Ounces; and the ſame reduced to* Engliſh *Pounds Troy-weight, and Centeſimal Parts. Obſerved by Dr.* Michael Angelo Tilli

	June.				July.		Auguſt.			
	Tuſcan Weight		*Engliſh Weight.*				*Tuſcan Weight.*		*Engliſh Weight.*	
	l.	*oz*	*l.*	*dec.*			*l.*	*oz.*	*l.*	*oz.*
1										
2	4	1	3	75						
3	2	2	1	99						
4										
5	3	4	3	06						
6	2	8	2	45						
7										
8	3	3	2	98						
9										
10	0	9	0	69						
11										
12										
13										
14	2	1	2	68			10	1	9	25
15	0	10	0	76			1	8	1	53
16										
17							2	8	2	45
18	11	1	10	17						
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Total W.			28	53					13	23
Depth.			4	90					2	27

D of M.	September.				October.				November.			
	Tuſcan Weight.		Engliſh Weight.		Tuſcan Weight.		Engliſh Weight.		Tuſcan Weight.		Engliſh Weight.	
	l.	oz.	l.	dec.	l.	oz.	l.	dec.	l.	oz.	l.	dec.
1	1	2	1	07	5	1	4	67	3	3	2	98
2												
3	10	0	9	18								
4												
5												
6												
7	12	2	11	17								
8												
9					4	4	3	98	2	0	1	84
10												
11					14	5	13	13				
12									3	6	3	21
13												
14												
15	2	8	2	45	2	3	2	06				
16												
17												
18					2	6	2	29				
19					1	9	1	61				
20												
21	10	4	9	48								
22												
23												
24	9	4	8	57								
25												
26					3	7	3	29				
27												
28												
29												
30												
31												
Total W.			41	92			31	03			8	03
Depth.			7	21			5	33			0	13